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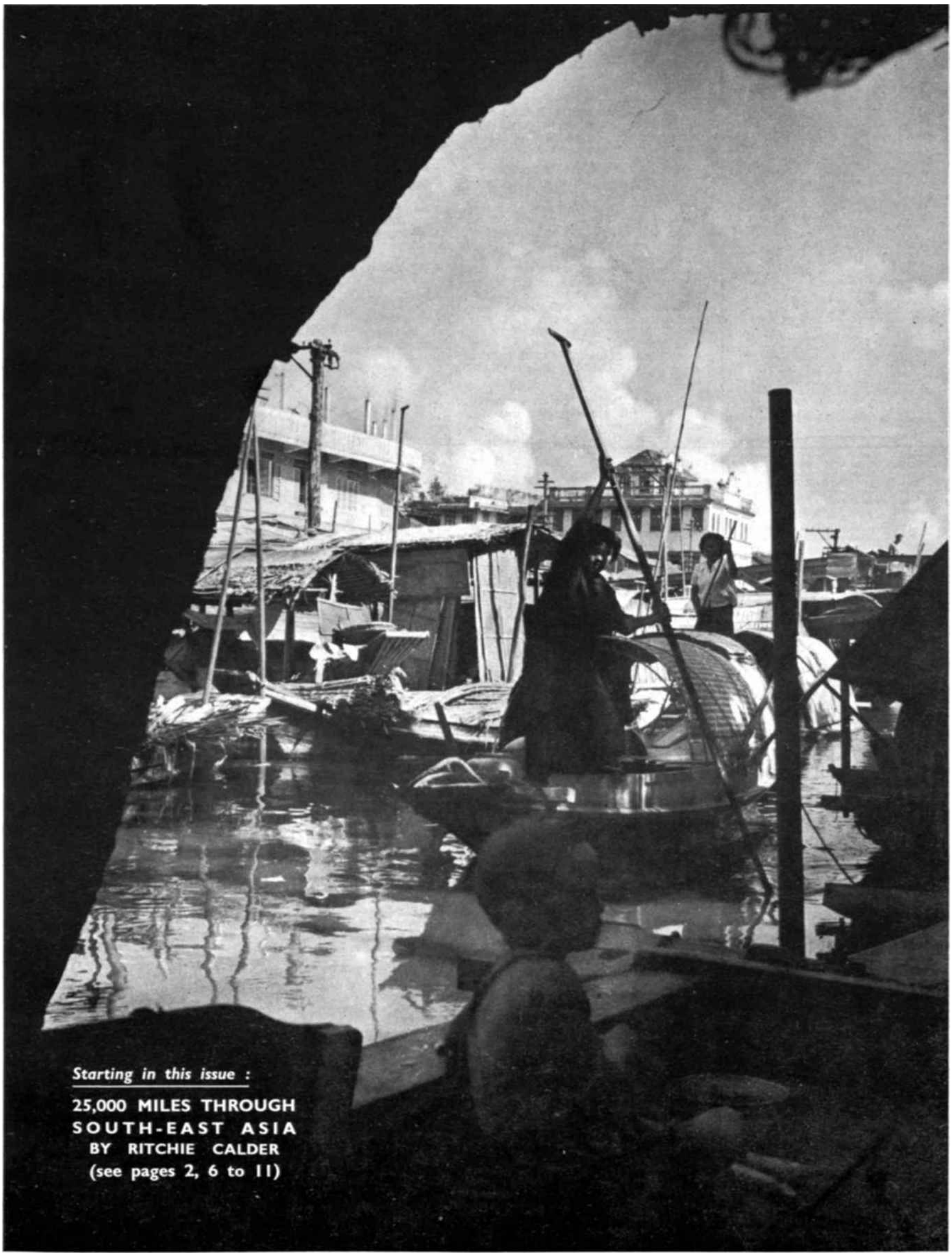

Starting in this issue :

25,000 MILES THROUGH SOUTH-EAST ASIA
BY RITCHIE CALDER
(see pages 2, 6 to 11)

Courier

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25,000 MILES THROUGH SOUTH-EAST ASIA

AN inspiring saga is unfolding in South-East Asia — the story of man's struggle against poverty, disease and ignorance, a hard but slowly advancing struggle in which the United Nations and its specialized agencies are joining with governments and the people.

In September of last year, a mission sponsored by the U. N. left Geneva on a 100-day expedition through Borneo, Indonesia, Thailand, Malaya, the sub-continent of India, and Afghanistan to record, in words and pictures, something of this collective effort in the most densely populated area of the world.

Led by Ritchie Calder, Science Editor of the London *New Chronicle*, the team included a radio expert, Herbert Steinhouse, of the Canadian Broadcasting Corporation, who made sound recordings, and Eric Schwab, a U.N. photographer, together with several film cameramen.

The expedition was originally conceived by the World Health Organization as an enquiry into the fight against disease in South-East Asia. But early in the planning stage, it was recognized that in regions of mass-misery "disease" could not be merely treated as an independent problem, since it is the direct result of poverty, lack of food, ignorance and social conditions generally. These were problems concerning the Food and Agriculture Organization, Unesco, the International Labour Organization, and, in fact, all the other U. N. agencies.

Ritchie Calder covered 25,000 miles in his three-month mission, and has written a series of articles, as a result of his trip, to bring alive the problems of the peoples he visited and the United Nations' efforts to help them.

In this issue (*see page 7 and map on centre page*), we begin publication of a selection of these articles, with Ritchie Calder at the beginning of his journey in the island of Borneo (the third largest in the world) and in Java, where he penetrated into the jungles and rugged mountains near Surakarta. In the following months we shall follow him across South-East Asia into Thailand, the land of the coloured pagodas, where he saw DDT being sprayed on the walls of the Temple of the Reclining Buddha as an example to Buddhist householders; then to Burma, where he visited the "milk shed" at Mandalay — "not as flippant a pretext as it might seem" — and found UNICEF, ILO, FAO and government technicians all at work together.

At Haldwani, India, not far from where Jim Corbett (author of *Man-Eating Tiger of Kumaon*) lived, he heard "the throb of the tractor and the rending crash of the bulldozer scare the tigers and send them deeper into the jungle" and found WHO doctors and nurses carrying guns on their medical rounds. Far out in the desert of West Pakistan, he gazed at the Lower Sind Barrage and the blueprints for a city of 100,000 people. "I suggest it ought to be called 'Unobad', because from the outset it will be planned and developed with the help of U.N. technical assistance experts," he wrote.

Finally, crossing the Khyber Pass, he entered Afghanistan where he discovered that "this country, for so long inaccessible and jealous of foreign intervention of any kind, is transforming itself with international help."

Men Against Want, Men Against Hunger, Men Against Disease, Men Against Ignorance—all of these Ritchie Calder witnessed in South-East Asia in the joint efforts of peoples, governments and the United Nations. He has given a clear picture of the fundamental meaning and purpose of his mission in a little pamphlet entitled *West Meets East*, published recently by the *News Chronicle*. Here is how he saw the fundamental problems facing the countries of South Asia : "In order to save time, three separate research groups once prepared three separate maps for a B.B.C. television programme. They were to show the zones of interest of the World Health Organization in terms of disease, of the Food and Agriculture Organization in terms of hunger, and Unesco in terms of ignorance and illiteracy. The triplication was unnecessary. The geographical contours of mass-disease, of mass-hunger and of mass-ignorance are identical. In South-East Asia, containing a third of the world population, it is no exaggeration to say that four out of five people have never known real physical well-being, have never had a diet adequate for health, and are illiterate. You cannot tackle one without tackling all three. Health is impossible without good food; good food is impossible without health, and both cannot be improved without knowledge. There is, in fact, a positive danger if the three get out of step. If modern medicine saves lives from disease people may survive only to face starvation and famine, if food production does not keep pace.

"Every time the clock ticks there is another mouth to be fed, mainly

Ritchie Calder (in dugout longboat) preparing to shoot the rapids in the jungles of Sarawak. He emerged from this ordeal soaked right to the skin and covered with sweat but full of admiration for Dyak watermanship.

in the area we are discussing. When infants, a third of whom now die, survive to marry, the population figure multiplies at compound interest. To cope with this needs knowledge, not only of the experts, but of an enlightened population.

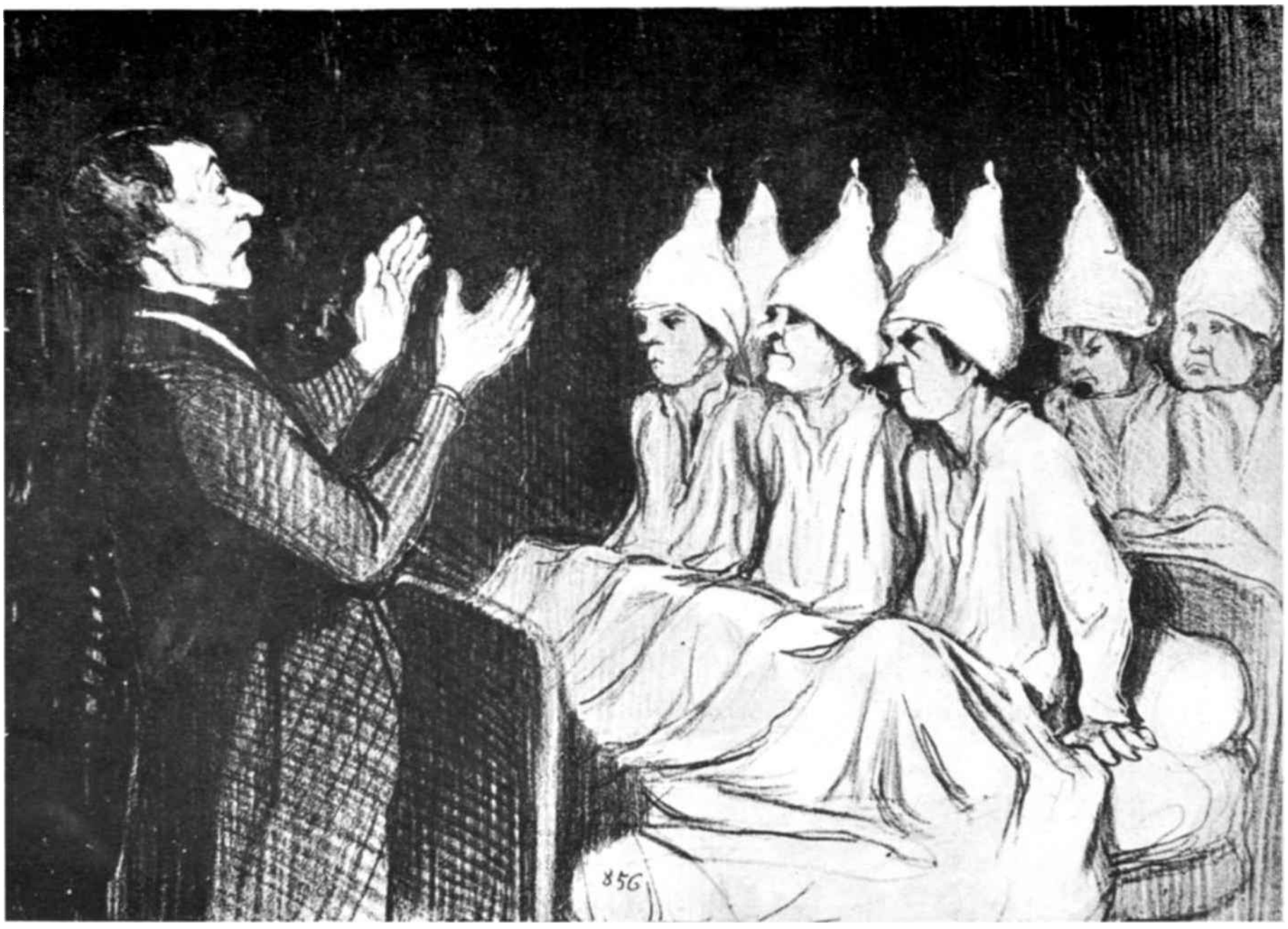
"Ridding a community of disease is not only a medical achievement. It is, within its scope, a social revolution. In the mountains of Central Java we went through villages where naked toddlers cheered the UN pennant as we passed, and shouted *merdeka* (freedom). The women smiled from their well-kept huts. The peasants waved from the paddy fields. Even the cattle and the animals looked sleek and well tended. We could contrast such villages with others where ailing children, blistered with sores, harassed the lives of mothers whose homes were slums, and where the peasants laboured in pain. Here in the region of Kulumprogo, a UN lesson has been well taught and well learned. In the first villages the great yaws campaign had achieved its purpose; in the other villages it has still to come. But they, too, will be transformed by the deliverance from yaws, that horrid disease in which a spirochaete, similar to that of syphilis, is introduced through cuts or sores.

"It is a crippling disease which means slow death and continual misery. In some districts three out of five of the people, old and young, are afflicted. It is estimated that in Indonesia about 12,000,000 people have yaws. Yet it can be cured almost instantaneously by penicillin. Victims who come hobbling for treatment on the characteristic "claw" feet of yaws (due to the infection of the soles of barefoot peasants) come literally hopping and skipping a week later. Before the Japanese occupation, Javanese doctors were wrestling ineffectively with the disease, using arsenicals. After the war they had penicillin. WHO sent in experts to help them — first a British yaws specialist from the West Indies, and then a German professor, with a Chinese woman serum expert, trained in America. Behind them were the resources, supplies and equipment of Unicef, the Children's Aid Fund, and the able help of the Indonesian doctors and *mantris* (male and female nurses). It began as a "demonstration," but became a mass campaign. The teams go out into the hills of Java and systematically test and inoculate every case of yaws they can find. The campaign began in June 1950, and by the end of 1951 in Java alone, over 1,000,000 people had been examined, and 250,000 yaws victims delivered from the disease.

"It has meant 1,500,000 c.c. of Unicef penicillin, which alone has cost $225,000. The price of victory has so far been about $ 2 a head — half found by Unicef and the rest by the Indonesian Government. Compare this figure for saving life with the cost of killing a man in modern battle ! Like malaria, the control of yaws has important economic consequences. The sick and the cripples cannot work — and Javanese rice cultivation, on these manmade terraces, depends entirely on availability of hands. But the social consequences are perhaps even more dramatic. Instead of grim lethargic misery, you have lively, bright and intelligent people, ready to fight illiteracy and improve their own lot. The yaws campaign is being extended all over Indonesia, even into the tribal hinterlands of Borneo, where WHO UNICEF are using an idea borrowed from the British Colonial medical services in Sarawak — floating dispensaries. These are native boats hooded over and equipped with outboard motors, which can penetrate the swamps and ride the rapids of the jungle rivers, in a country where roads and even paths are virtually non-existent.

"Any improvements of this kind are valuable only when they are acceptable. That is where Unesco has to play its part through education in its widest sense — not just the ABC of literacy, but knowledge for its own sake. In Thailand, for example, there is a big Unesco programme of training which will not only reform the Thai system of education, but will introduce into the countryside Fundamental Education, which means making people, even if they are illiterate, interested in knowledge—a pre-requisite of literacy. The way of imparting this knowledge is by interesting the people in improving their conditions of life. Through such institutions as the Janita College near Delhi, and in Ceylon, Indonesia, Pakistan, Burma and Afghanistan, Fundamental Education is being encouraged. This gets right down amongst the grass roots. It propagates the kind of thing which WHO, FAO, ILO and the other instruments of UN want to promote—hygiene, a willingness to change methods (like adopting new varieties of rice in preference to traditional ones), local industries, including a revival of time-honoured crafts, a new role for women and, of course, literacy. UN Technical Assistance in this sense is the raft of social and economic change."

(On pages 6 to 11 we publish four of Ritchie Calder's articles written on the first lap of his expedition in Sarawak, Borneo and Java.)



Dormitory in a well-regulated school. "Attention!... When I clap my hands, you will place your head on the pillow... When I clap again, you will shut your eyes... The third time I clap, you will all fall sound asleep." (Lithograph by Daumier which first appeared in the review "Le Charivari" on February 3, 1846).

CARICATURES SATIRIZE A CENTURY OF TEACHING

by Georges Fradier

ALTHOUGH the 19th century was certainly one of progress in the field of education, many men in public office, as well as teachers, too often forgot or ignored the wise words of the Swiss educator Pestalozzi who, in the early 1800's, declared : "Learning is not worth a penny when courage and joy are lost along the way."

Few indeed were the children who, in the first half of the century at least, found courage or joy in the classroom, for all too often goading and flogging was the rule, and teaching came always from the head, rarely from the heart.

For the past two months, a retrospective view of education as it developed in France in the century between 1805 and 1905 has been provided by an exhibition organized in Paris by the Musée Pedagogique. Entitled "A Century of Teaching seen through Caricatures and Pictures," you get an impression at each exhibit of turning the pages of a family album filled with relics of a strange yet hardly distant era.

This was the century when education won its rights. But so slowly and painfully were they gained, and amid so much hate and hypocrisy, that at each picture of a forbidding-faced minister or schoolmaster, visitors could hardly help reflecting with pity on the fate of their parents and grandparents, shown in smocks or embroidered coats and wearing boots or wooden clogs, who were once the youngsters of that era — and also the guinea pigs of conflicting doctrines and politics.

1805-1905. This was the century of Romanticism, of growing industry, of great discoveries, of *bourgeois* virtues, of the first stirrings of democracy. It was above all, in the terms of the exhibition at the Musée Pédagogique, the century of forgotten children who were gradually rediscovered.

First we see various official documents, laws, decrees, pictures of solemn, bearded faces and frightening or humorous drawings. But we see nothing of the children. The children? They were not important then. What counted was teaching and the clashes over political and religious questions in teaching. What counted were the school buildings and the teaching hierarchy; the schoolchildren not at all.

The children were only statistics, registration numbers or budget items. For in that century of noble ideals it was the budget that mattered and, perhaps more important, the administration, the school and State reports submitted by the schoolmasters and the government. These were things that raised heated discussions, became elements in the political scheming of local government officials and even shook the Chamber of Deputies. But children had hardly any place in this world of grandiloquent grown-ups.

A century of progress. Many an educator must have been grateful to the Musée Pédagogique for recalling a phase of history which, on the whole, turned out well, for it ended quietly in a sort of victory for justice and freedom. But only after a long struggle.

The enlightened people who, around the 1830's preached the doctrine of universal education, already proclaimed by the French Revolution, were generally regarded as silly cranks. Schooling for all—what a crazy idea ! Everyone knew that small boys were needed in the mines, young girls in the factories. Besides, they were not taken on until they were eight or nine years old, and were only made to work 12 hours a day. And what if they were whipped?—it was only for their own good !

Some years earlier, King Charles X had already agreed to a "draft decree" which envisaged primary instruction in France "to inculcate in everyone the habits of order and all the religious and moral virtues." A dangerous road, said many people. If it were followed there was no telling where these starry-eyed Utopians and revolutionaries might lead the country.

It was with narrow-minded thinking and brutal frankness that the clashes first began. Respected, thinking people asked one another in all seriousness : "Is it wise to educate children?" (they meant, of course, the children of the mass of the people). This was the tenor of the discussions that continued for some twenty years.

In 1850, Adolphe Thiers, a cabinet minister and a noteworthy champion of the established order of things, exclaimed in a moment of righteous indignation : "I have already said, and I maintain, that primary education should not necessarily be within the reach of all. I will even say that education is the starting point of an easier existence, and such an existence is not meant for all."

Similar remarks were heard in almost every tongue. Today, it is easier to be shocked by them because the "Utopians" and the "revolutionaries" have apparently carried the day. But, in point of fact, these professions of faith sprang from a conception of teaching even held by many an advocate of compulsory schooling. This conception, innocent in appearance, is perhaps not as completely discarded even today as many believe. It holds that the true function of public education and the real reason for its existence is to provide moral support for the power in which the State incorporates and justifies itself. In other words, the school at the service of society ; the child at the service of the adult.

Whether or not they did so consciously, the majority of our parents cherished this idea, and against it the efforts of the most ardent defenders of freedom were often of no avail. When Michelet was expelled from the Collège de France, Daumier sprang to his defence

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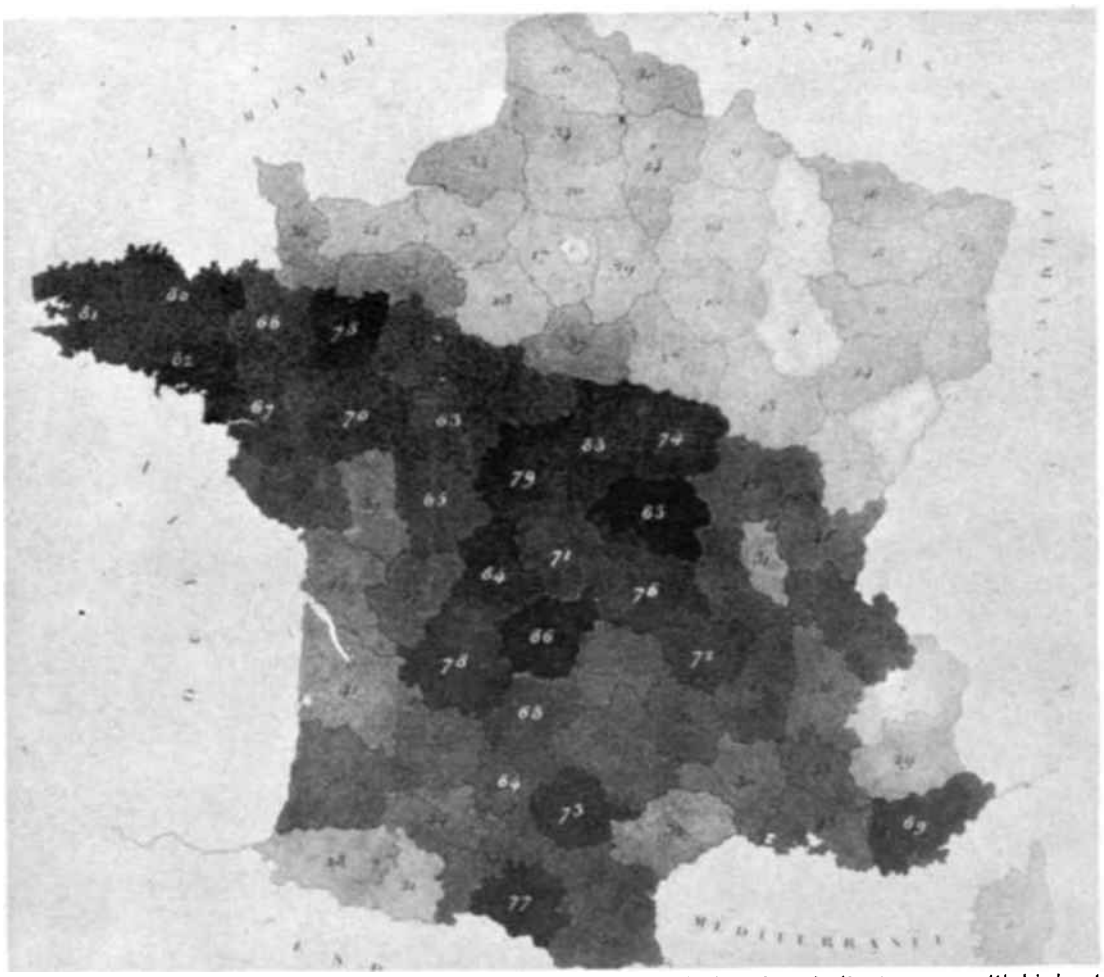


Map showing the state of illiteracy in France in 1825. The darker tints indicate areas with highest illiteracy rates. A census among young people at that time showed the tremendous difference between the Meuse, a département in the north-east (26 per cent illiteracy) and Corrèze in central France (88 per cent). The Paris area took sixth place, with 29 per cent unable to read or write.

"Wretched boy ; now look where your anarchist ideas have got you. You shouted 'down with grammar and those who teach it!'. I regret the day you were born." Many schoolboys at that time—1849—also had cause to regret they had been born.

"So, you knave, you don't know the names of the three sons of King Dagobert... It's obvious that you know nothing about anything... Do you want to be a useless member of society all your life?" (Lithograph by Daumier in his series "Teachers and Whipper-Snappers," originally published in "Le Charivari" on March 3 1846.)

"Just you wait a minute. I'll give you a taste of what a schoolmaster really does." When Daumier produced this cartoon in 1846, the symbols of teaching were the birch and the cane. These gradually disappeared, and discipline based on fear and authority gave way to affection and an understanding of young minds.

When schooling for every child was considered a dangerous crank's idea...

(Continued from previous page.)

with a biting caricature. Thanking the artist, Michelet wrote : "I see with joy a time coming when the goverment being the people itself and thus becoming an educator, will surely call on your genius." As if any government ever pretended to be anything else but the embodiment of the people !

At any rate, the day came when children were accepted in schools (or ordered to go) by the million. Then differences arose over another and much more serious question. The new problem was : "How should children be taught ?" and "What should children be taught ?"

Once, a delightfully simple solution seemed possible. Society being divided into rich and poor, the former could be taught to shoulder their responsibilities with dignity and the latter shown how to earn their living usefully. The well-to-do would become good magistrates, officers and employers, and the poor, skilful artizans, obedient soldiers and contented workers.

The first group, shut up in school "barracks" whose grim atmosphere Balzac, Daudet and so many other writers have evoked, would be fed on a diet of Greek and Latin, grammar and rhetoric. The rest would be taught the rudiments of reading, writing and arithmetic together with a few lessons on morality. All would grow up with a developed respect for authority and imbued with the cult of national glory.

Towards the end of the century, however, progress was made, not by combatting this cult or feeling of respect, but by removing the most striking inequalities, by broadening school programmes, changing teaching methods and rewarding intelligence rather than riches, enthusiasm rather than docility.

Progress also opened the windows on the world and let in the sun and the air. The expression "the wind of freedom" was then on everyone's lips. Gradually, the austere professor — that dreaded civil servant — and the village teacher, so often dominated by the mayor and other authorities, disappeared and gave place to a new figure, the educator.

Little by little, too, the true face of the child was revealed. No more bad instincts to be broken, no more cramming of knowledge into young heads, no more "little beasts" to be forcibly transformed into respectable citizens. Instead the child came to be regarded with respect as a human being, endowed with a personality and character worthy of study and tender care.

Developing the child came to mean helping rather than forcing him ; virtues were to be guided and not imposed by severe training. In short, the child was to be treated as an individual; and with this fresh psychological approach, a new form of teaching was born.

This then was the misty dawn when the first clumsy steps, so vividly recalled by the yellowing papers and touching photographs of the Paris exhibition, were taken. Experience showed to adults that a mechanical memory is not the be-all and end-all of intelligence. They realized too that a little experience is worth a lot of theory.

The exhibition traces this long path: the first geography maps, the first "object lessons," the first illustrated textbooks. It shows playgrounds that no longer resembled prison courtyards, teachers who looked less like ogres, women teachers who braved ridicule and scandal to join in gym classes. It also shows happy schoolchildren gardening or setting off on rural explorations. For these, at least, the century ended on a more idyllic note.

One after the other came laws and regulations to define in detail the working of primary and secondary schools, technical and professional instruction, teachers' colleges and adult classes. But the real and vital change was not found in written laws. It was in mental attitude. Henceforth the school existed for the child; no longer the child for the school, or for a social class, a political party or a single religion.

It may be said that this revolution was still incomplete in 1905, not only in Europe but everywhere else. Yet the progress accomplished in a few decades was enormous. No one would suggest, however, that it has since been followed up with the same faith or at the same speed.

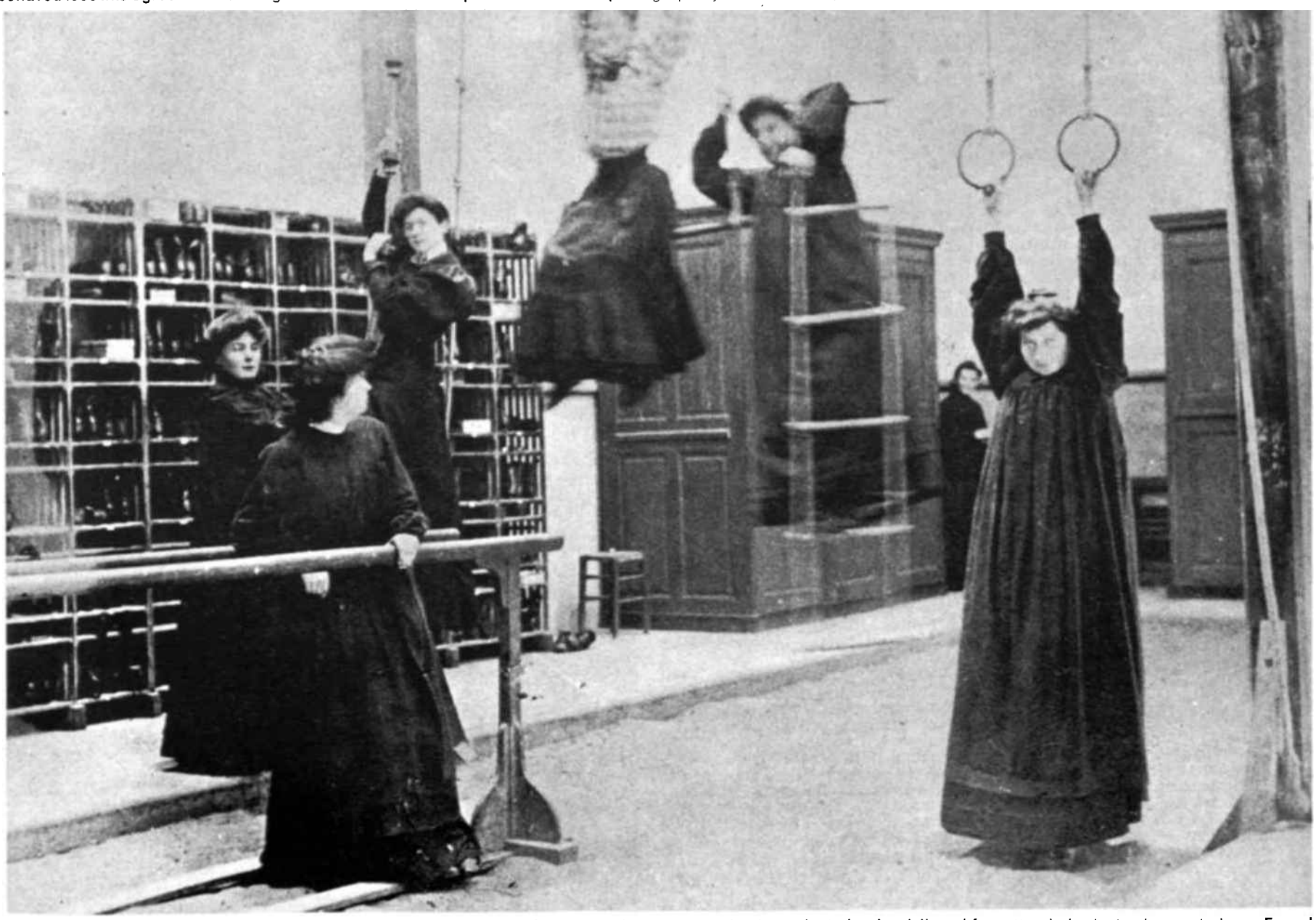
In 1850, Victor Hugo, in a famous speech at the Chamber of Deputies, called for "a vast plan of public education provided and regulated by the State; for the doors of science to be thrown wide open to all minds." "Wherever there is a mind, wherever there is a field," said the noted author, "there should also be a book. There should be no community without a school, no town without a college, and no city without a university."

Since then many more schools have been opened and many more books distributed. But not "wherever there is a field" — even today. For millions of minds "the doors of science" are still hardly ajar. We are told that in 1952 more than half of mankind is still illiterate. The battle for universal education then has still to be won. *(Illustrations photographed by Leif Larsen)*

"Personally, I believe above all in using the force of reason with my pupils—and they worship me. Just ask them. There isn't one who would dare tell you the contrary!" As the century advanced, teachers behaved less like ogres transforming "little beasts" into respectable citizens. (Lithograph by Daumier 1847.)

Illustrated textbook in 1863 explains use of adjective: "Handed over by a **grieving** family to a **severe** but **just** friend because he's **lazy, greedy** and **untruthful.**"

"What adjective could better describe this boy than **wicked**? This little girl is saying to her brother: 'Just look at that **wicked** boy. Isn't he **ridiculous**?'"



Photograph taken at the Women Teachers' Training College in Coutances in 1905, when, to join in gym classes, women teachers had to brave ridicule. In the preceeding century pictures illustrating the education of girls were rare. This reflected the attitude of an era when education for women was almost completely neglected. A privileged few attended private classes to learn French grammar, water-colour painting, deportment, music and tapestry-making. For the poorer girls there were only the charity schools or classes where nuns taught practical needlework and the rudiments of mathematics and reading.

Aspects of Science

THE RIDDLE OF OUR ATMOSPHERE

By Ira M. Freeman

THE atmophere enveloping the earth is a beneficent cloak that not only sustains the breath of life in man and other animals, but provides an effective shield against the lethal agents raining in on our planet from outer space. Miraculously, our atmosphere abounds in the life-giving oxygen needed for breathing. Other planets, insofar as they have an atmosphere at all, are wrapped in choking blankets of strange gases such as methane or ammonia. If breathing animals exist in such worlds, they must have a kind of body chemistry quite unknown to us.

The numerous meteors that flash brilliantly in the night skies would be devastating and deadly missiles were it not for the air. These fragments of cold stone, hurling themselves at our planet with a hundred times the speed of a rifle bullet, are heated so intensely by friction with the air that they usually burn or vaporize completely before reaching the earth. Of the millions that impinge each day, only an occasional one will be large enough to survive complete disintegration. It may then crash to earth with spectacular and sometimes destructive effect.

Even more important than the mechanical protection it affords is the optical defence that the atmosphere provides. This it is able to do because of the formation of a gas called ozone, generated under the action of the searing ultra-violet rays present in sunlight. Ordinary oxygen gas consists of molecules, each made up of two atoms of this element.

Ozone molecules, on the other hand, are transient structures, each constituted of three oxygen atoms. They originate in the region from about nine to 25 miles above the earth, but would occupy a layer hardly more than a twelfth of an inch thick if confined at the pressure obtaining at ground level. Yet this mere film of gas is all that stands between us and scorching death from the sun's rays. On such slender threads does terrestrial life hang.

How far upward does the atmosphere extend, and what is its structure and condition at various levels? It may be said that except for the part directly accessible to earthbound man, we had very little detailed knowledge on these questions before the beginning of the present century. With the coming of the aeroplane, heights of up to about 60,000 feet were finally attained. Sounding balloons carrying instruments can be sent up to more than twice this height.

In 1898, the French meteorologist de Bort described and named two fairly well-defined atmospheric layers or shells — the troposphere, extending from the surface to an altitude of about 45,000 feet, and then the stratosphere upward from this point. Nearly a quarter of a century later, by studying the way in which radio waves are reflected back to earth, Kennelly in America and Heaviside in England recognized the existence of a still loftier region called the ionosphere, beginning at about 50 miles and extending perceptibly to heights as great as perhaps 2,000 miles.

The troposphere, the locale in which we live out our existence, is the tumultuous region of wind and weather, of clouds and storms. Nearly four-fifths of the air near sea level is nitrogen, and about one-fifth is oxygen. The chemically inert gas argon and carbon dioxide together account for less than one per cent, while the very last hundredth of a per cent is made up of the other rare and inert gases and of mere traces of hydrogen and ozone. In addition to these permanent members, there are varying amounts of water vapour, dust and bacteria.

One of the most striking facts about the atmophere is the rapid diminution of pressure from height—a direct result of the compressibility of gases under the weight of the layers lying above. It was the English astronomer Halley, early in the eighteenth century, who described this pressure variation. If one ascends about 17,000 feet, the pressure will be half its value at sea level; rising an additional 17,000 feet will bring the pressure down to a quarter of the initial amount, and so on. But this smooth and simple variation was later found to hold only in the lower regions of the air.

Compared with the troposphere, the stratosphere, lying just above it is calm and untroubled. Man himself has been able to explore only its very lowest layers, but quite recently he has succeeded in sending high altitude rockets up through it and even into the ionosphere. An occasional cloud, the trails of meteors and atomic débris left by the cosmic rays are its only habitual visitors.

Studies of the manner in which sounds are reflected back to earth from the stratosphere have given science much information about this region.

The ionosphere has been well investigated up to heights of about 500 miles, but there is evidence that this outermost region of the atmosphere reaches perceptibly to over four times this altitude before abandoning its thrust into interplanetary space. At such heights the air must be far more tenuous than the best vacuum we can produce in the laboratory.

Measurement of the manner in which radio waves are sent back to earth shows that there are several layers of ionized, or partially disrupted, atoms in the ionosphere — hence its name. Both the structure and the composition of this region are continually changing in response to the influx of the fierce radiation from the sun, of cosmic rays and of electrified atoms from outer space. In addition, there is evidence for the existence of violent and tempestuous winds having many times the speed of the most devastating gales ever encountered at the earth's surface.

More remarkable still is the indication that temperatures in the ionosphere range up to 2,700 degrees Fahrenheit. This does not mean, however, that an object rising to these heights would be burnt to a crisp. Rather, it must be remembered that temperature is merely a measure of the speed of motion of the atoms or molecules of a substance.

Rockets now send automatically to earthbound observers radio messages of, for instance, temperature, pressure, cosmic ray intensity and solar radiation. They can even collect actual samples of the air at various heights. Such data will be valuable in answering questions concerning the origin, structure and composition of the atmosphere, and may ultimately make possible the long-range prediction of weather conditions on earth.

If you wish to read further on this subject, write to the Department of the Popularization of Science, Unesco, 19, avenue Kléber, Paris (16e), requesting a free bibliography on "The Atmosphere."

MEN AGAINST DISEASE

WITH TH HEALTH

by Ritchie Calder

U. N. photographs by Eric Schwab

IT was pitch dark and a sinister hour of night to be nosing through a mangrove swamp. Every mangrove root, arching high out of the water, looked like a gargantuan spider or a petrified octopus.

The throb of the engine startled the wild life of the swamp. A slither and a splash. A scurry through the branches. The flapping of unseen wings. A cry. A screech...

This was neither the time nor the place to go pleasure cruising. But the floating dispensary had an appointment to keep. It had to be at its moorings at the next village, in time to catch the fishermen before they left at dawn for their fish-traps in the delta.

No better example could be found of the practical difficulties and resourcefulnesss of Men Against Disease in the heart of the equatorial jungles than these floating dispensaries "doing their rounds."

In Sarawak and, indeed, in the whole of Borneo, the third largest island in the world, a major problem for the health authorities is communications. Before medical science can help people, it must reach them — a prodigious task in this island of swamp and jungle and remote, often unexplored uplands. There are few roads or even paths or trails. In the whole 47,000 square miles of the British Crown Colony of Sarawak there are only 460 miles of roads — and for 400 of these, "road" is a courtesy title.

So the only practical way is by water. And water means treacherous coastal currents, swamp channels and jungle rapids. This hazardous mode of travel has made the Dyaks into redoubtable watermen. The name Sea Dyaks (as distinguished from the Land Dyaks) is applied to people who live remote from the sea, and is a reminder that the first contact which the outside world had with the Borneans was as head-hunting pirates, whose skill in manœuvring their frail land boats far out at sea and their addiction to chopping off heads made them the terror of the Eastern trade routes.

Civilization, then, must follow the routes of barbarism and penetrate the remote parts by water. The British Colonial Development and Welfare Fund provided £78,000 to supply dispensaries — two out-station and 16 mobile. The river dispensaries are native *perahu* (pronounced "pra-ow") powered by outboard motors.

These 16 river dispensaries are now in operation. They patrol fixed stretches of the rivers at regular intervals — days, weeks, or months — so that their "consulting hours" and moorings become familiar.

With a crew of three — hospital assistant, attendant and boatman, all Borneans — they chug their way through the jungle swamps and up the rivers. They have to be at their points on the appointed days, because people come long distances, often carrying the sick. The sound of the outboard motor is a modern tom-tom summoning the people from afar.

Treatments are simple : cough mixtures, cod liver oil, stomach medicines, salves and ointments and arsenical injections (for yaws).

The hospital assistant does the diagnosis and administers the drugs, but if he finds a condition which requires doctor's attention or hospital treatment, the dispensary becomes a river ambulance to get the patient to the nearest hospital.

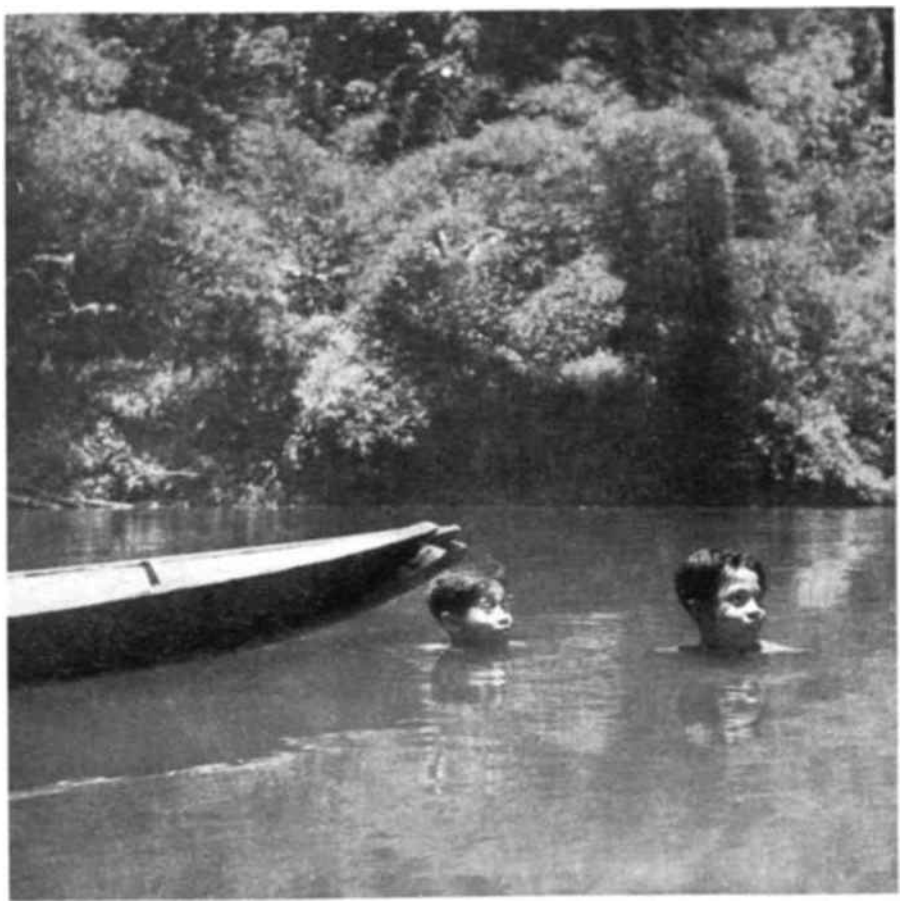
The life of these Men Against Disease is a trying and dangerous one. The boats are cramped, and drugs and equipment have priority over comfort. The heat and humidity, the equatorial sun and the steam-bath of the jungle is my idea of hell.

And I suppose one gets used to the sickly stenches of the tropical fishing villages, redolent of drying and rotting fish, and the reeking slime of the river banks.

The dispenser does most of his treatment on the river's edge, but often he is summoned to the huts of the bedridden — huts perched on stilts above the swamp.

The dispensaries have been an unquestioned success. The number of people treated the first year — 36,000 — rose to 165,000 the second. The river boat method will be used in the B.C.G. (inoculation against tuberculosis) campaign, which the Colonial Medical Service is about to start with the help of WHO and UNICEF. It is being adopted in Indonesian Borneo, to the south, in the anti-yaws campaign also sponsored by WHO and UNICEF.

Another pioneer enterprise, run by the



E JUNGLE PATROL

Government with U.N. help, is the Mother and Child Health programme. The supplies come from UNICEF and the experts from WHO.

Plymouth-born Olive Warren had had many tough assignments in her time — with UNRRA in Italy and with IRO in the refugee camps — but probably none as difficult as wrestling with religious resistances and superstition and the primitive child-bearing practices in equatorial Borneo.

She and a Swiss expert in children's diseases, Miss Hulda Wenger, started out to train Bornean girls as hospital nurses. UNICEF helped by providing modern equipment for the maternity and children's wards and dried milk.

But Miss Warren's assignment also included arranging for trained midwives to go into the mothers' own homes. This was difficult, particularly among the coastal Mohammedan Malays. They are supposed to be nursed only by their own "wise women," who are paid the traditional fee — a chicken, two sarongs and some needles. Their practices are crude and unhygienic.

Slowly this is changing. Malay women are coming in increasing numbers to the ante-natal clinics and often will agree to go into hospital to have their baby, or accept the modern trained *bedans* or midwives. But usually at the last moment they jib, through the nagging of their elders.

The Chinese women have no such misgivings and Dyak women are often prepared to make long journeys by jungle trail and canoe to hospital. Usually this is when they themselves realize that things are going wrong, and whatever is wrong is worsened by the hazards of the journey.

The only effective answer will be the native-born midwives.

With one of the new *bedans* and Miss Warren, I went on a midwifery call. The *bedan* set off on her bicycle with her black bag, a comprehensive rucksack of equipment designed and supplied by UNICEF. She pedalled her tortuous way to the stilt-house. Miss Warren and I followed in a jeep, which we had to abandon at some distance and pick our way on foot.

The house was spotless—a tribute to the ante-natal instruction the mother had received. The baby was born on the bamboo floor, covered with washed gunny bags and Chinese paper. Faces peered through the wicker walls.

When the baby had lustily introduced himself, he was put to bed on seven vividly-coloured folded sarongs on the floor. These are ritualistic. Each day one sarong is removed until on the eighth the infant is lying on the cane mat beside the mother.

Its daytime cradle is a sarong folded in a triangle, knotted at the apex and swinging from the rafter by a rope. Cradled in this, the baby is safe from marauding pests.

These *bedans* are hardy and courageous young girls, who with flash lamps and hurricane lamps bring babies into the world to the sound of bullfrogs in the swamp, the clucking of lizards and the screech of night prowlers. All that WHO or UNICEF or a government can do is to start them off. The rest is with them — the breaking down of superstition, the emancipation of mothers from primitive methods which amount to a death cult, and the persuasion and training of other Bornean girls.

Example is the great teacher. When the "good spirits" of modern science can overcome the dread of "bad spirits" which dominate the Borneans, medicine will prevail.

It has done so in the case of leprosy here in Sarawak. The leper in Borneo —as everywhere—is the tragic outcast. At the first sign of the sinister red patch, the longhouses and villages expel the victim. Only a few years ago, he would go never to return. Today, lepers are going back cured to their families.

Between Kuching, the capital of Sarawak, and the jungle, there is a big sign "Rajah Sir Charles Brooke Leper Settlement." That is about all you can see from the road. There is no fencing, but among the trees, alongside a pleasant river, is a series of "villages" which, with an administrative building, a hospital block (not very big, because few are bed cases) and two wooden dormitory huts, comprise the settlement.

From its beginnings in 1929, when leprosy was still a permanent disease, this enlightened community set out to make the lepers feel "normal." They follow their own trades, have their own clubs and lead their own lives. They can marry and have children, but the baby will be removed from the mother at birth, before she can infect it.

Here what even we in the West call "miracle drugs" have worked miracles. By using basic sulphone injections once a week, leprosy can now be cleared up. It cannot repair crippled limbs but it checks the disease, heals the scars and removes infection. As a precaution, patients must be medically supervised for three years and continue their treatment.

Men Against Disease are only a handful in Sarawak—just nine doctors for an area as big as England and Wales. Local students are coming on, and some have been sent abroad to be trained ; but the shortage of personnel is appalling. Yet this little group, confronting the jungle and its primitive superstitions, are beating out a trail along which the people themselves will find their own way.

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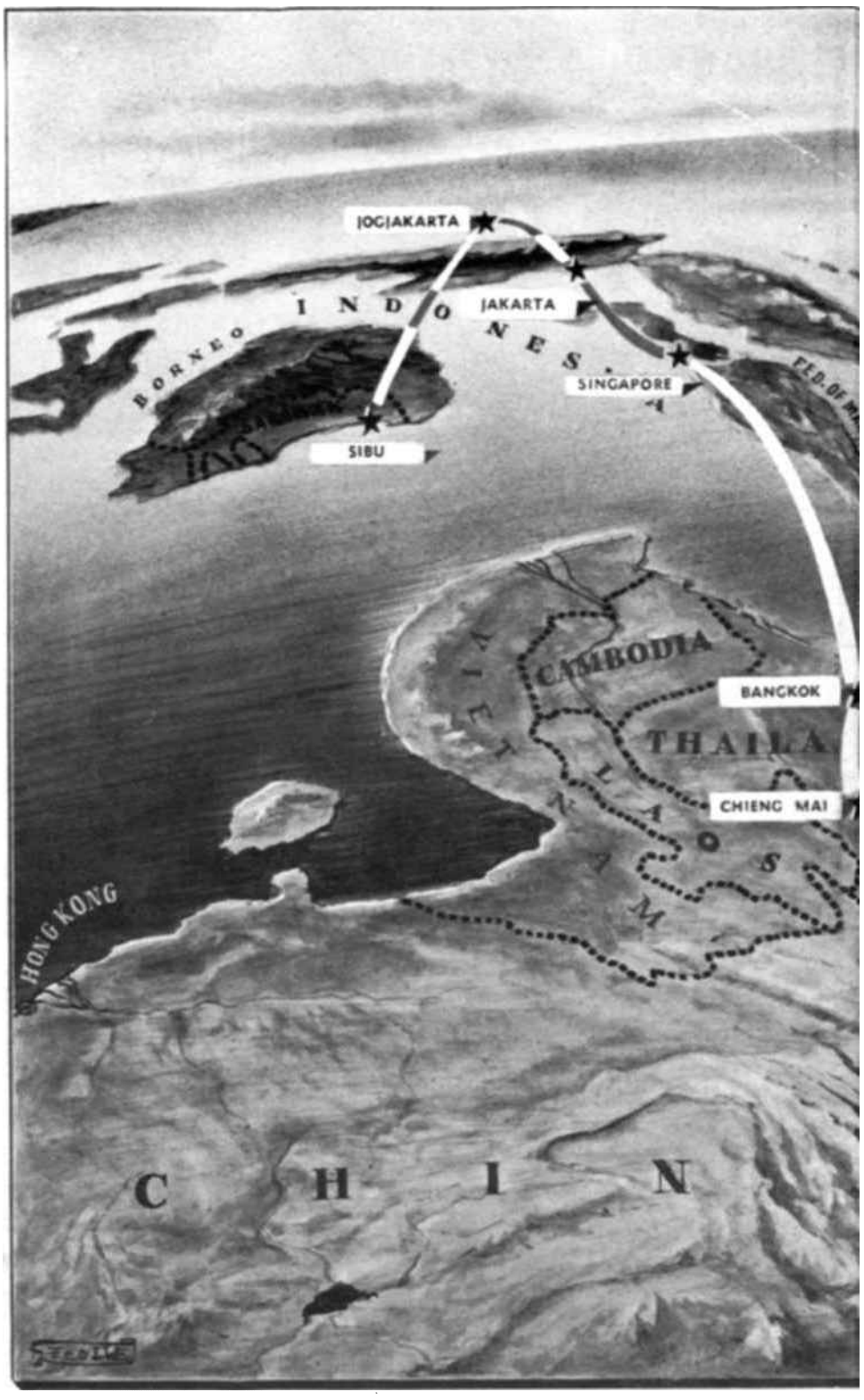
BY THE LIGHT OF HURRICANE LAMPS SIGOTA GOES OFF TO THE BAMBOO SCHOOL



IN THE JUNGLE, BORNEO.

SIGOTA is a jungle schoolgirl, aged twelve. She is the eldest of four children, three girls and a baby boy, who share house with their father, mother, both sets of grandparents and 200 other people.

They are Dyaks, or headhunters, except that they do not hunt heads any more, and are much more peaceable than the nations who regard them as uncivilized, and much more moral than some of those who deplore the fact that they are pagans.

Sigota lives in the tree-tops. Her home is a "longhouse," built on stilts which support a platform of bamboo slats bigger than a football field, with a hut stretching all the length — just one long room with plaited screens of banana leaves partly separating each family.

Maybe a longhouse may seem curious to people outside Borneo, but a city tenement or an American skyscraper would seem just as curious to Sigota. It depends upon whether you think of a longhouse as horizontal or vertical.

Last night, I shared the same room as Sigota and her family. I slept on a straw mat, on the uneven floor of bamboo stems, and after a day in the jungle I slept soundly — once I could ignore the stirrings in the jungle around us and the slitherings and scratchings of miscellaneous reptiles and night-prowlers.

This morning Sigota and I and the rest of the occupants of the longhouse were wakened at dawn by a chorus of roosters under the bed — because the village chickens roost, and the village pigs root, in the space between the floor and the ground. They are the scavengers who deal with the refuse and sewage which is disposed of quite simply and crudely through the slats of bamboo. One has to forget the refinements of modern plumbing in a Dyak longhouse.

But the longhouse is nevertheless kept clean. This itself is quite a fact, for all the water has to be carried from the river which tumbles through a gorge some distance away through the jungle.

And that was the jungle schoolgirl's first job — to collect the water from the river. She had no pitcher or pail, only a dozen bamboo bottles — just sections of bamboo, with the knot as the bottom.

When she went down to the river her first concern was her morning bath. This meant plunging into the rapids in her sarong which she kept around her and washed at the same time as she bathed. (Laundering is simple in equatorial Borneo — the sarong was dry on her before she reached home.) Then she cleaned her teeth by rubbing them with the useful bristles of a sliver of coconut shell.

Her own morning ablutions over, she filled her bamboo bottles with clear running water. One bottle was leaking. She called to a boatman who left his canoe, ducked into the jungle, took his heavy curved knife whetted to razor-sharpness, and with a few deft slashes cut another section, then stripped and cleaned it. It did not take a minute.

The blackboard was lit by a swaying hurricane lamp... Each pupil had a tiny wick-lamp in front of him by which he had to read his books and tote his sums.

Sigota filled her new bottle and strapped it, with the others, on a rack which she slung on her back, and with that straight back and perfect posture that gymnastic teachers spend laborious hours giving to schoolgirls, she climbed back to the longhouse.

Her mother was squatting on the floor, fanning a charcoal brazier on which the rice was cooking. Rice and a mess of vegetables, spiced with chili pepper, and a banana from a bunch just cut in the jungle, was Sigota's breakfast, washed down with a draught of cool, clean-tasting juice (not yet "milk") from a young coconut, freshly broached.

The head of her group — the longhouse is divided into working parties — called Sigota, who picked up her basket of rice seed, like a small fishing creel, and joined the party. And so did I.

We filed off, down the notched tree-trunk which is the staircase from the longhouse platform to the ground, and along the jungle trail.

An old crone led the way, chewing a ball of lime, betel-nut, and red tobacco, which had already blackened her teeth and turned her mouth to an oozing, scarlet gash. She was muttering all the way — on gossiping terms with the spirits, who, because she was so old, could not harm her.

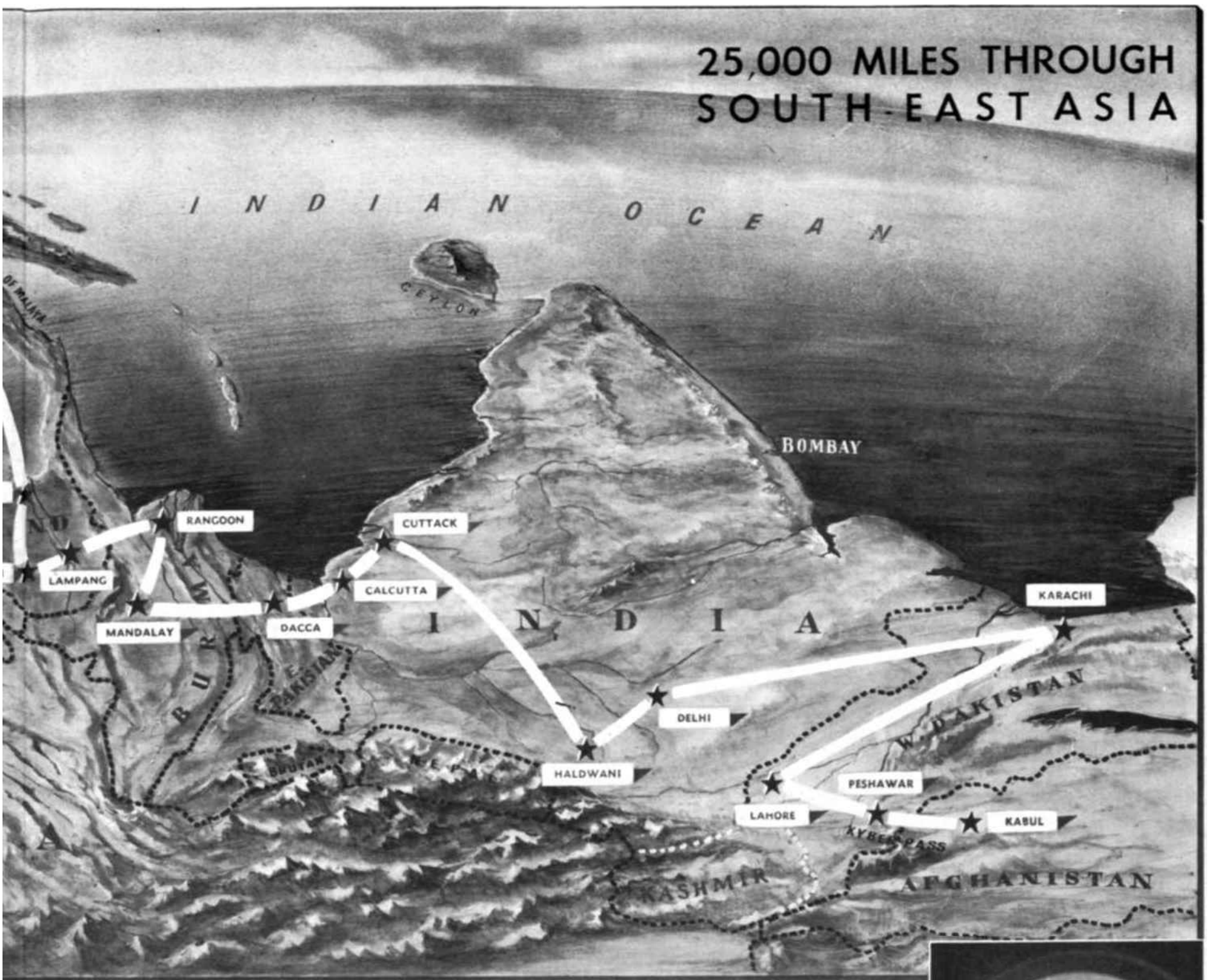
Her job was to watch the omens. Perhaps Sigota and her lively girl-friend, Sengos, who were walking along so demurely (one must not be sprightly with sprites) were hoping that they would hear the bukang-bird, because if they did they would all have to turn back and abandon the rice-planting for the day.

But no ill-omen crossed our path on the long trek through the steaming jungle to the rice field.

This was a patch of hill-jungle, a few acres in area, which the villagers had laboriously cleared by cutting down the bigger trees and setting fire to the undergrowth and the bamboo trees. The ash lay heavy on the untilled ground.

In the middle of the patch was an erection of bamboo canes supporting a thatched roof and a platform on which was laid a variety of trinkets, a banana leaf of food and a bottle of rice-beer. The spirit whose shrine it was likes a square meal and strong drink, washed down with water from bamboo bottles. It is one of the duties of Sigota and Sengos to replenish these bottles, throughout the heat of the day, with cool water. This water is brought from a stream high up the hill on a frail aqueduct of split bamboo cane, supported above the ground on crutches of branches — a simple and satisfactory pipeline.

But the aged Mistress of Omens, ignoring this permanent shrine, went to a corner of the patch, on the edge of the jungle, rigged up another shrine of thin canes about three feet high and thatched it with green leaves. She squatted on her haunches and laid a leaf like a green salver on which she put some food and a sprinkle of rice from the baskets of each of the sowers, adding some of her own chewed betel-nut. Then for about half an hour she alternately scolded and cajoled the Rice Spirit until finally she got some sort of assurance and signalled for the planting to go on.



★ ★

Ritchie Calder covered 25,000 miles on his United Nations expedition to study conditions in the countries of South-East Asia. Stars and white lines on map mark his route from the dense jungles of Sarawak to the bleak mountains and plains of Afghanistan. Here live some 800,000,000 people, most of them citizens of new nations which have won independence since the last war. The great majority of the inhabitants are poor. Most merely exist, with no margin of food or wealth above mere subsistence level. Not only are they poor in respect of worldly goods, but illiteracy is the rule and they are often bound by tradition, custom, religion or fear to continue living in the manner of their ancestors. Diseases are endemic and frequently cause wide-spread epidemics. At each point of his journey, however, Ritchie Calder found the people of this huge area awakened to new possibilities and discovered new evidence of the co-operation between the Orient and the Occident which is helping to raise the standards of living of about one-third of the population of the world.

This is a daily ritual which is very important because, if the Spirit sends the wrong omens, if he lets the wrong kind of snake (not necessarily a deadly one) stray on to the ricefield, the villagers will abandon the patch and all the labours it has meant.

The planting was very simple. The men of the party went around stabbing the ground with pointed staves and the women and girls followed, dropping a pinch of rice seed unerringly into each hole. The holes were left uncovered, an invitation to the birds (another good reason for appeasing the Rice Spirit, under whose jurisdiction bird-thieves come).

Sigota and Sengos, as schoolgirls will, were giggling over some private joke (probably me!) and sprinkling rice seed. All morning they worked in the heat of the clearing, occasionally douching their faces and having a drink at the spout of the aqueduct.

When the sun was vertical in the heavens and seemed to be focussing on that jungle clearing with the intensity of a watch glass, the group-leader called a halt and we all retreated into the shadows of the Jungle. Shadow, yes, but with the marrow-melting humidity of a Turkish bath.

On the way back we met Bait (Ba-eet), a twelve-year-old schoolboy friend of Sigota. He was also on his way home, alone, from the rubber-tapping. Since early morning he had been out with his curved *parang* (heavy knife), carving spiral cuts in the barks of the rubber trees. Skilfully he had shaped each cut into a runlet, which drained the oozing white sap into a cup. He was carrying back his morning's collection to pour into shallow tins like toffee-trays in which the sap congeals to a dough-like consistency.

Bait's afternoon work would be to roll and knead the dough into slabs, and place them in a press, each separated by a sheet of cheese-cloth. The remaining moisture is squeezed out, the sheets passed through a mangle and hung on a spar to dry until the Chinese merchants come and buy it.

The chromium-plated wrist watch on Bait's arm and the fountain-pen in his Dyak working dress are his share in the rubber-boom, which has reached deep into the jungle. For some longhouses it has meant wealth which runs to outboard motors for their canoes, wireless sets and even generators for electric light. In this longhouse I have seen a bicycle, although there is not a jungle trail along which anyone could ride it.

After her midday meal, not very different from her breakfast, except for a slice of pineapple which her mother had gone out and collected gratis in the jungle, Sigota had other duties. She looked after her baby brother, taking him for a stroll along the platform, with him sitting astride her thighbone — not pickaback but pickaside.

They relieved her younger sister who had been sitting waving a long bamboo cane over the rice spread out on mats to dry. This was to keep off marauding poultry. While Sigota swung this, the one-year-old beside her waved a cane three times his size, joyously shooing off the persistent hens.

When her mother wakened from her siesta, Sigota turned to more serious work. She had to thresh some of last harvest's rice, beating it until the chaff, winnowed by the wind, dropped through the slats (with quite a lot of rice) to feed the poultry below. As a reward she was given a chunk of sugar cane to chew.

When darkness fell, without even the dimming curtain of a twilight, she was still at work, milling the rice by rubbing it between two heavy chunks of wood.

Schoolgirl? Yes, Sigota is a schoolgirl. She was working since seven this morning but at seven in the evening, with the crescent moon just making the darkness visible, she, together with Sengos (both of them in bright sarongs and ornaments in their hair), and Bait and a dozen other "schoolchildren," some of whom were over 20 years old, joined a procession of hurricane lamps and flashlamps.

They went downstairs to school which is a thatched open hut in a clearing beyond the longhouse.

The blackboard was lit by a hurricane lamp which periodically dimmed out behind a screen of moths. Each pupil had a tiny wick lamp in front of him by which he had to read his books and tote his sums.

And they began to read in unison "Ay man saw a tiger"... "I cennut towch the top of the coconut tree"... "My father went to mercut today."

Sigota is a star pupil. Solo she recited "My mother is tired. I am sorry."

Proudly the teacher in white pyjamas showed to me his certificate accrediting Ibrahim bin Mantali, aged 45, as a temporary teacher. It stated that he had passed standard four in Malay and standard three in English.

He may not have had much schooling himself, but he has brought literacy to these jungle Dyaks. And Sigota and Bait and their friends want to learn, even if it means going to school in jungle darkness, alive with strange sounds—including the echoes of the A.B.C.

They hail Singing Supraptor as an old friend and provide the musical accompaniment with strange instruments, including bass-effects obtained by "booping" into hollow bamboo tubes of various sizes.

This thrifty, ingenious Javanese peasant "plants" fish fry with the rice, and later "harvests" them with the grain.

A simple theme which will sing in the rice-peasant's head long after Supraptor goes on his way to teach others.

MEN AGAINST HUNGER
RITCHIE CALDER — CONT'D.

THE SINGING SUPRAPTOR AND THE SONG OF PLENTY

SURAKARTA, CENTRAL JAVA.

THIS is the story of Singing Supraptor. I have to call him that, to distinguish him from Social Supraptor and all the other Supraptors who have not got first names either. Nor surnames, because Supraptor is not a family name but a *nom de plume*.

Anyway, "Singing Supraptor" suits him very well, because his method of teaching farmers how to improve their methods and their crops is to sing his instructions, and to send them away chanting choruses about the virtues of green manure.

This is Fundamental Education in its simplest and most colourful form, as simple as nursery rhymes, as practical as a farming manual (which they could not read) and as quaint as the troubadour.

Singing Supraptor is a graduate in agricultural science, but he is a man of the people who can shed his *expertise* as he can shed his jacket and puddle in the wet paddy fields with the peasants he is trying to help.

"You must see and hear Supraptor," Dr. Van der Ploeg, the FAO adviser to the Indonesian Government insisted in the capital, Djakarta. "He is the regional officer of the Agricultural Extension Service, but his methods are remarkable."

"Unorthodox?" I queried.

"On the contrary — traditional," said Dr. Van der Ploeg.

What Supraptor has done is to return to the elementals, as anyone concerned with the soil should do. He uses five tunes which (I am told) are the basis of all Javanese music, age-old and known to every Javanese. To these he sets words. Some of the verses are just music hall, getting the laughs from the audience, like :

"The farmer of Indonesia
Is a simple-hearted chap
Who always does what the govern-
[ment tells him to do..."
(Loud guffaws and catcalls.)

Others are instructions :

"If we want the best from our soil
And a proper reward for our toil
Our rice must be planted in rows
With manure to make sure that it
[grows
We must pick the best seeds
And hoe out the weeds
—But that every good farmer
[knows."

And so he goes on, through tune after tune, improvising and word-flirting with his particular local audience, but always coming back to the lesson and explaining in recurring verses how they should select the seed not from the barn but from the ripening ears, and what sort of leguminous plant they should use as green manure.

On another occasion it may be on irrigation, and when and how it is best to prepare the channels. And so on — a simple theme which will sing in the rice-peasant's head long after Singing Supraptor has gone.

We went on his rounds with him, in the mountains around Surakarta, visiting the new farmers' clubs and rural extension centres, of which there are ten in his district. Heart-warming places they are — bright and lively with posters, primitive in terms of the subtle sophistries of western visual aids, but "packing a punch," because they are the sort of things which an illiterate peasant might himself draw in trying to express himself.

These clubs are substantial buildings, some of them provided with American aid, but very much the farmers' own in initiation and continuing support. They come there in their spare time for good fellowship, tea-drinking and rice-eating, and once a week they have instruction.

They hail Supraptor as an old friend. They provide the musical accompaniment with strange instruments, including bass-effects from "booping" into hollow bamboo tubes of various sizes.

I have never seen a "class" enjoy itself more than that collection of tea-swilling, chorus-singing, cigar-smoking peasants in their turbans and sarongs. And I have never seen more attentive pupils than those who surrounded the irrigation expert, as he demonstrated how, by co-operatively planning their terrace lay-outs, each could help all.

He used a sand-table on which was modelled the contours of their own familiar countryside, and on which they could recognize their own rice plots. He showed how, by banking and grading and proper run-off, they could husband the water and the soil, and prevent erosion and the heartbreak of collapsing terraces.

What he was doing was no more than "adding-up" the centuries of experience which have produced those monuments of careful farming, the Javanese rice terraces. I say "monuments" advisedly, because I went to Borobadour, one of the world's wonders, in this same region.

This is a Hindu temple (a reminder of the time when the Hindu empire reached down through the archipelago to Bali), where hundreds of Gautama images look out from their niches and *stupas* on the ledges of a great ornate pyramid. But those terraces of inanimate stone did not impress me half as much as the living Borobadours — the terraces of growing rice which climb the mountains. Every foot — and sometimes the ledges are not more than a foot wide — of soil that can be cultivated is made to yield rice, with ingenious water management to flood each terrace for the wet-paddy.

Often they yield more than rice, because these thrifty, ingenious Javanese peasants "plant" fish with the rice and "harvest" them with the grain. As they flood the terraces, they introduce the fingerling, or fry. When they drain the water off some three months later, the fish which have been "grazing" among the rice are about the size of a large sardine, or pilchard — which is the size the Javanese like. This is a vital source of protein for peasants on a rice diet, and Supraptor and the other Government officials are encouraging the peasants to increase their fish yields. They supply hundreds of thousands of fish fry.

Here in the Surakarta regency, we have seen something of the leaven which has come into the social and economic life of a hard-working peasant population, with political freedom (which they value fervently), with the health campaign (which has lessened the crippling burden of disease), with the anti-illiteracy campaign, and with a sense of urgency to improve their low standard of life.

With Social Supraptor, I went round social centres, clinics, adult education schools and rehabilitation centres. The anti-illiteracy urge — from the people themselves — is intense. Young and old sit together on the benches in the schoolrooms. The teachers (in a country deplorably short of them) are everyone who knows and can communicate, such as civil servants, doctors, nurses, postal workers, all in their time off.

Perhaps it can be summed up in the example of a rehabilitation centre for war wounded, of which Social Supraptor is properly proud. There we saw limbless men, and women, making their own artificial limbs — not peg-legs but mobile, aluminium arms and legs carefully copied, with newly-acquired skills, from prototypes obtained from abroad. And they were learning their alphabet as they worked.

There is something inspiring in a people who sing their own practical salvation and in cripples who mend their bodies and minds at the same time.

MEN AGAINST WANT

THE 'GNOMES' ARE MOVING A MOUNTAIN WITH BARE HANDS

JOGJAKARTA, CENTRAL JAVA.

LIKE gnomes in some weird fairy tale, copper-red bodies dug and delved in the squelching mud at the bottom of the pit or scurried like ants up the swaying bamboo ladder, as long as a fire-escape. The peasants of the hills above the Progo River were constructing a canal.

It was an incredible sight which I watched under the blistering sun until my eyes glazed and my muscles ached in sympathy with the back-breaking efforts of the toilers. It was like stepping out of the 20th century back into the remote ages when the pyramids of Egypt were built. In this way, with such primitive tools, the Babylonian slaves must have cut the Hillah Canal which diverted the Euphrates. With such freaks of muscular effort, the fabulous Hindu temple of Borobadour must have been built.

That is no exaggeration. The Javanese peasants are cutting a fifty mile long canal with nothing but their own muscles, pickaxes, mattocks and chisels. The only contribution of the machine-age is a couple of oil-pumps, no bigger than motor-car engines, to check the seepage through the dirt dam holding back the swirling waters of the Progo, which will presently flow through the canal. For the rest it is just flesh and blood and primitive iron.

When they encounter rocks they do not use dynamite because they have not got it and because manpower is still cheaper than explosives. So they use hammers and chisels and wedges and chip the rock into pieces small enough for the bearers to carry away in their baskets. I saw a rock two cubic yards in size being put up to contract. The foreman put a price of 75 roepias ($10) on its removal.

The bidder then started immediately on a chiselling job which would take him a week. Work which a mechanical shovel, or a bulldozer and a few sticks of dynamite could accomplish in a few days takes hundreds of peasants months of strenuous effort. In a year, they advanced two miles.

But these were not Babylonian slaves. They were free farmers working for a greater freedom on an enterprise they themselves had started. They wanted rice and this is the hard way to get it. Up here in the mountains, about 30 miles from Jogjakarta, which was the first capital of the Indonesian Republic, life is even harder than in the plains. Down below there is water-rice in those impressive Javanese terraces, contoured like the seats of an arena. Up here there are coconuts and cassava.

Rice needs water, and the Progo River by-passes their hill-lands. Further down the river, a Dutch plantation owner had dammed the river and drawn off water for his hill-station. And tantalizingly across the river are the kind of wet-rice fields the peasants on this side would like to copy.

So the hill dwellers got together and decided to cut this canal just to meet their own local needs by bringing water into the hills. Then the Government took a hand. It could not give the peasants equipment but it could give them advice and a master plan, by which the hill villagers were persuaded to make their local irrigation scheme part of a bigger scheme which will make the Progo water 25,000 acres over a wide area. And so it will be. The villagers in each area, working co-operatively, provide volunteers for the work, each village sending its complement, as the work progresses into its area. The Government has provided some permanent labour but only a fraction. It is still primarily the peasants' own efforts which matter.

UN Technical Assistance experts in Indonesia had urged us to see this remarkable undertaking, not because the United Nations has any direct connexion with it, but because of its significance.

The United Nations, even if asked, which it has not been, could not materially help a project of this kind. Technical Assistance is confined to advice and such limited material as is needed to demonstrate that advice; it does not supply capital equipment. Nor can the Government, in this case, afford to do so. Even if it could supply the dynamite it would have to provide the trained civil engineers as well. So all it can do is to give such help as it can spare and its blessing to the peasants' efforts.

But the significance is what happens when a community is relieved of the disabling and discouraging burden of mass disease, such as yaws, and with the incentive of new-found freedom is urged on to produce the better food it needs, to make use of experience in new methods of cultivation, and, at the same time, to create the instruments of its improved well-being, like education and the anti-illiteracy campaigns.

The Government is giving every assistance and encouragement to new movements for co-operatives — credit co-operatives to find the means and producer and marketing co-operatives to procure supplies and sell the produce.

Just what that can mean can be measured by the age-old abuse of peasant labour. To get seed, the peasant had to borrow from the Chinese money-lenders. If he borrowed a hundred roepias, he would repay at the usurous rate of 15 roepias a month — and still be owing the original borrowing at the end of the year. But it did not stop there. When the seeds had sprouted in the nursery patch he and all his family would labour from dawn till dark, laboriously transplanting it seedling by seedling. Then when the crop was approaching ripening in the wet fields, he would drain them. At this point, the money-lender who would also be the agent for the rice merchants would come along again. He would make an offer for the green rice, which would be half what the harvested rice would fetch. And since the farmer, to meet his interest rate and feed his family, would be in desperate need of money, he would have to accept the offer. Then he would have to husband and harvest the crop for the benefit of the money-lender.

Credit co-operatives will help him there. The Government can help him with improved seeds, from special breeding stations and with experts on proper management and on the way co-operatives should be run. It has started rural extension courses and schemes for supplying cattle as a way of encouraging farmers to improve and extend their stocks.

All this marches alongside the other activities — the training of social workers, of health officers for the villages, campaigns to improve nutrition and remove disease, schools (two and sometimes three relays of pupils a day) and adult education.

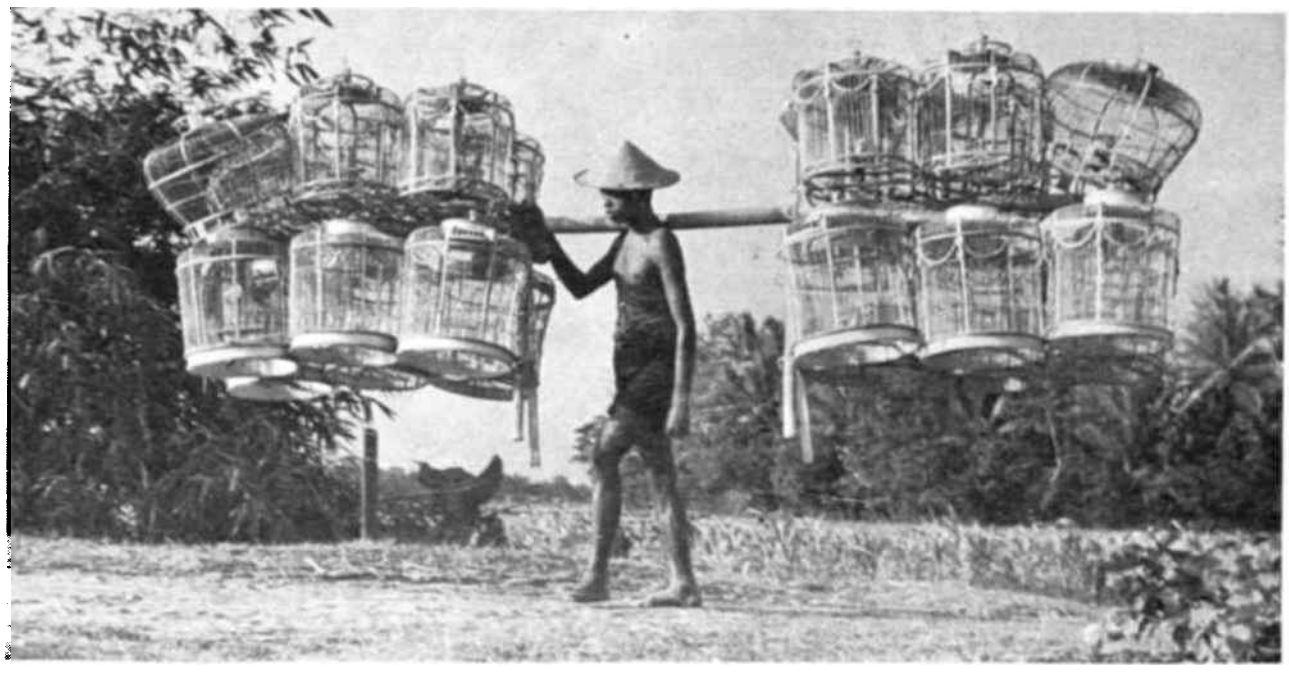
This is new life in an old country. The Javanese are amongst the most careful farmers in the world. They understood contour farming long before the words got into textbooks. They built up these earthworks of mud, plastered by hand.

In their flooded fields they developed inland fisheries, the simultaneous growing of fish and rice. Because of the value of this in supplying badly needed protein for peasants in other parts of the world, the Food and Agriculture Organization has enabled students from as far away as the Caribbean to go to Java. And the "professors" have been the illiterate peasants, rendering Technical Assistance to other countries out of age-old experience of their own.

So the "gnomes" of the Progo canal are symbolic. They are cutting their way into the twentieth century and, to do it, are moving mountains with their bare hands. .

The Javanese peasants are building a 50-mile long canal with nothing but their own muscles, pickaxes, mattocks and chisels. When they encounter rocks they use no dynamite, because manpower is cheaper than explosives.

Copper-red bodies scurried like ants up the swaying bamboo ladder as long as a fire-escape. It was like stepping back into the era when Egypt's Pyramids were built. Only modern contribution was two oil pumps.



No load is too heavy for this Javanese peasant woman at Borobodour, Central Java. An Indonesian bird-cage vendor is on his way to the market on the island of Java.

Art—an everyday enrichment of Norway's peasant homes

Photos and text by
Georges PATRIX

This painting of a rooster by an unknown Norwegian folk artist of the 19th century bears a startling resemblance, in its technique and subject matter, to the work of the contemporary French tapistry artist, Jean Lurçat. The rooster is the motif of one of six panels painted on a cupboard door (shown in full on page 14) in a peasant house in Gudbransdal. It is now in Bygdöy open-air folk museum, on the outskirts of Oslo.

THERE seems to be such an enormous difference in quality between the everyday household objects we see displayed in museums and those we actually use ourselves today. If we stop for a moment to reflect that, before finding their place in museum showcases, many of these treasures were once considered little more than ordinary objects, made and sold for common use, we may well ask ourselves why so much beauty and quality have gone out of the familiar objects that surround us today.

Museum collectors comb the world in search of the works of craftsmanship and art of old, and painstakingly assemble them in truly magnificent treasure houses for their own and future generations to see and admire. But have we made anything like a similar effort to bring more beauty into our own everyday lives, into our homes, into our cities, into our streets? How many of us, for example, accept with complacency or with an apathetic shrug of the shoulder the ghastly ugliness of our industrial suburbs?

It is in this light of marrying art more closely to our daily living and surroundings that I see the peasant culture which flourished in the shelter of the valleys and fjords of Norway right until the beginning of our present century.

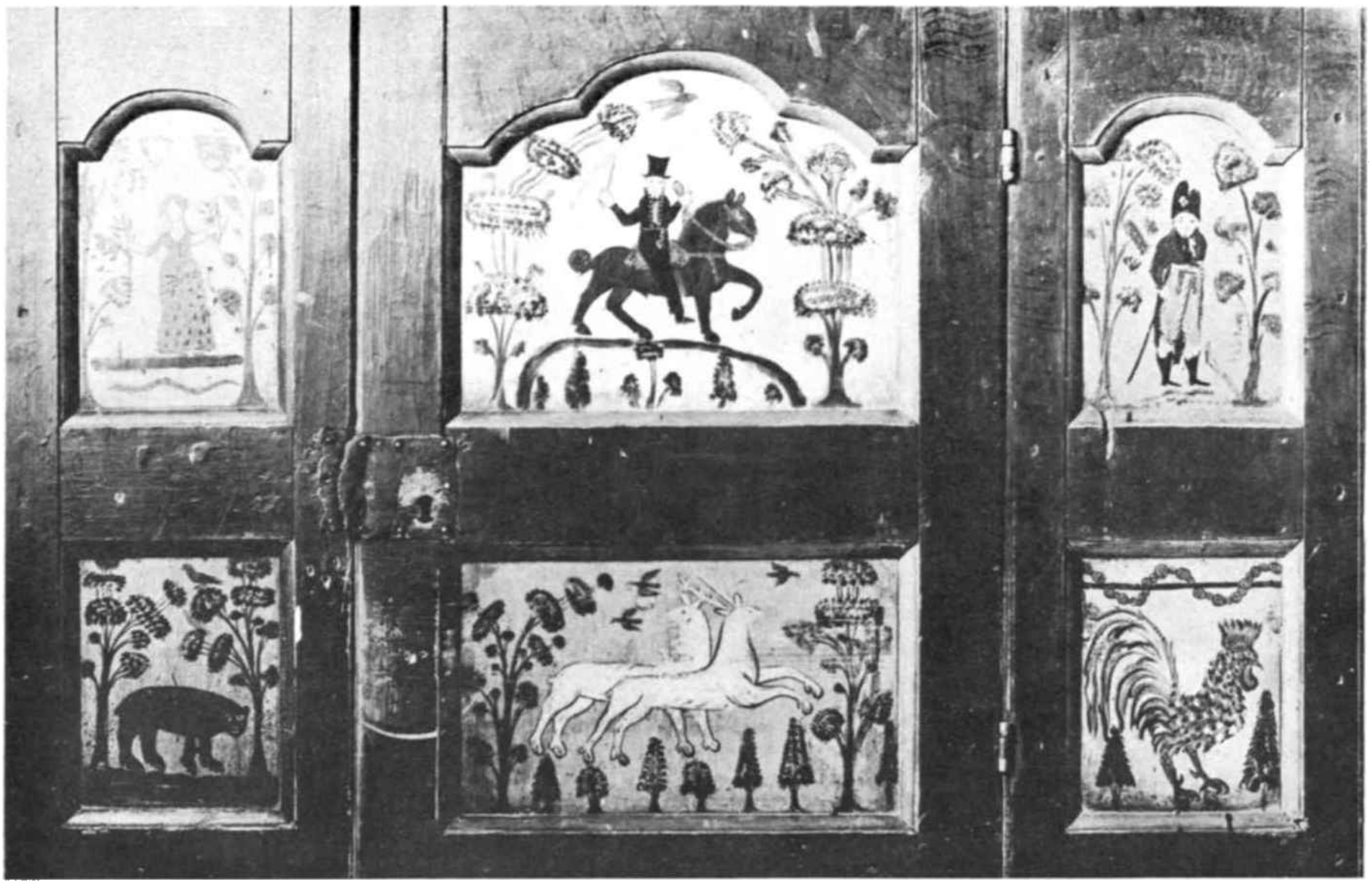
From earliest time, the inhabitants of Norway have shown a strong urge to express their thoughts and ideas in terms of decorative art. Undisputed master of his land for many centuries, the Norwegian peasant was also a skilled carpenter and woodworker. He turned oak, birch, beech and fir into log dwellings and farm buildings and furnished them with handmade objects ranging from carved furniture to decorated beer bowls.

Peasant art was mostly a winter art, flourishing during the cold, dark months when the home became the centre of all family life.

The artistic development of painting, carving and architecture, all of which are closely linked, really began with the introduction of chimneys into peasant houses. Until the Middle Ages, and in some places even much later, the fire was made in an open hearth. Before the smoke escaped through a *ljore* or smokehole in the roof, it obscured and blackened everything.

(Continued on page 14.)

From earliest times, the people of Norway have shown a strong urge to express their thoughts and ideas in terms of decorative art. It was to a high degree an "everyday art," which helped to give colour to the drab reality of daily life. The framework within which this remarkable development took place was wooden architecture, furniture, wood-carving, tapestry, and "rose-painting." Peasant craftsmen put their ideas into effect in a wealth of variety, vitality and movement. Though outwardly based on styles which were a common European heritage, Norwegian folk art is distinctly national in character. Photographs above show a delicately painted door panel (the horse-drawn sleigh is used by folk artists to symbolize wealth) and two statuettes carved as supporting columns for a sideboard. The figures of the violinist and drinker recur frequently in Norwegian peasant art.



The Norwegian home is like an ever-open book to which the tired peasant can turn his mind when the daily toil is ended. The decoration of his furniture and walls—and often of ceilings—can be compared to the illuminated manuscripts which, in the Middle Ages, combined beauty, spiritual instruction and humour.

A BLENDING OF USEFULNESS AND ART IN EVERY OBJECT

(Continued from page 12.)

Decorations therefore were limited to symbols designed to ward off evil spirits: magic signs or dragons' heads carved on wooden beams. On feast days, tapestries woven by the womenfolk were hung on the walls, relieving the drabness of the bare wood with their variety of colours. These tapestries, with their biblical figures or geometrical designs, followed a traditional technique still in use nowadays. Old Norwegian peasant women can still be seen spinning and dyeing the new wool and then weaving it on antique wooden looms.

After the introduction of the chimney into the home, the whole atmosphere of the living-room changed. With the disappearance of smoke and soot inside the house, the furniture and walls began to be covered with permanent decorations. First, symbolic geometrical designs were carved on coffers, sideboards and beds; then the carved wood was covered by a simple coat of paint and finally, as its possibilities were applied to the reproduction of biblical or family themes, painting became the basic element in decoration.

This is, of course, an over-simplification since the development did not occur simultaneously in all parts of Norway. At Voss in western Norway, for example, carved geometrical decorations remained in vogue at a time when decorative painting was being outstandingly developed in the provinces of Telemark and Hallingdal. In these two areas, graced with especially picturesque landscapes, painting acquired a special name, *rosemaleri* (rose-painting) from the use of flower foliages as the basic motif.

The rose-painters soon became skilled craftsmen both as housepainters and artists. They went from farm to farm offering the peasants their services. At times they travelled into other provinces, where their work influenced and enriched the existing local styles. One of the most famous Norwegian rose-painters was Olav Hanson of Telemark, whose works show evidence of a sure hand, true powers of observation and a developed sense of humour, despite his reputation as a great drinker of *aquavit* (alcohol distilled from potatoes).

Inscriptions got place of honour

After the flower foliages, the subjects on door panels and wardrobes took the form of remarkable little paintings. Borrowing from illustrated bibles and religious pictures, the artists painted reproductions of Old Testament images alongside domestic scenes of feasts and marriages. Heraldic animals also lent inspiration, but the most common subject was that of a peasant astride his horse.

The technique employed by these artists was always very simple. Outlines were first skilfully made with the brush and then vivid tones were applied flat. Neither perspective nor relief was very highly studied, and the treatment of the subject was in general as simple as possible.

In these decorations, a place of honour was given to inscriptions, with the lettering prominently placed among flowers and arabesques. This was especially true of the linen chest which a bride even today traditionally receives from her parents in rural Norway. The chest, usually an ancient one, is repainted in bright colours, with the bride's name and the date of her marriage carefully inscribed inside. For many families, dates on these bridal chests constituted a sort of civil register.

Typical Norwegian peasant beer bowl.

It is difficult to follow the evolution of these popular peasant styles because they intermingled and no chronological records were kept. Nevertheless, one can distinguish two main currents. The first is a sense of continuity in both conception and technique springing from the effect of the recurrent seasons on farm life. This explains why we find prehistoric magic symbols and Roman motifs side by side on 19th century furniture. The second current is the slow and late introduction of different European styles which gradually became integrated with Norwegian peasant art but did not destroy its national character.

It was natural that folk art in a seafaring country like Norway should be inspired by souvenirs brought back from abroad by sailors. The peasants' practice of decorating a horse's harness with cowrie shells, which serve as money in some parts of Africa, is one example. (*See back page cover.*)

The popular rose-painter, Gunnar Anfinsen Arekel, drew inspiration from material brought from abroad by seamen in the early 19th century. Arekel, who lived in the fjord of Hardanger in South-west Norway, became a painter because he was lame and could not work on the land. The local pastor taught him the rudiments of drawing and the young man eventually became nationally known for his exquisite decorations of wedding chests.

Fiancé carved his proposal

The Norwegian peasant's love for decoration expressed itself in practically every piece of furniture and wooden object at home. The ancient wooden board used for ironing — called the *mangletre* — was profusely decorated and came to acquire a special symbolism as the traditional love token of the peasant.

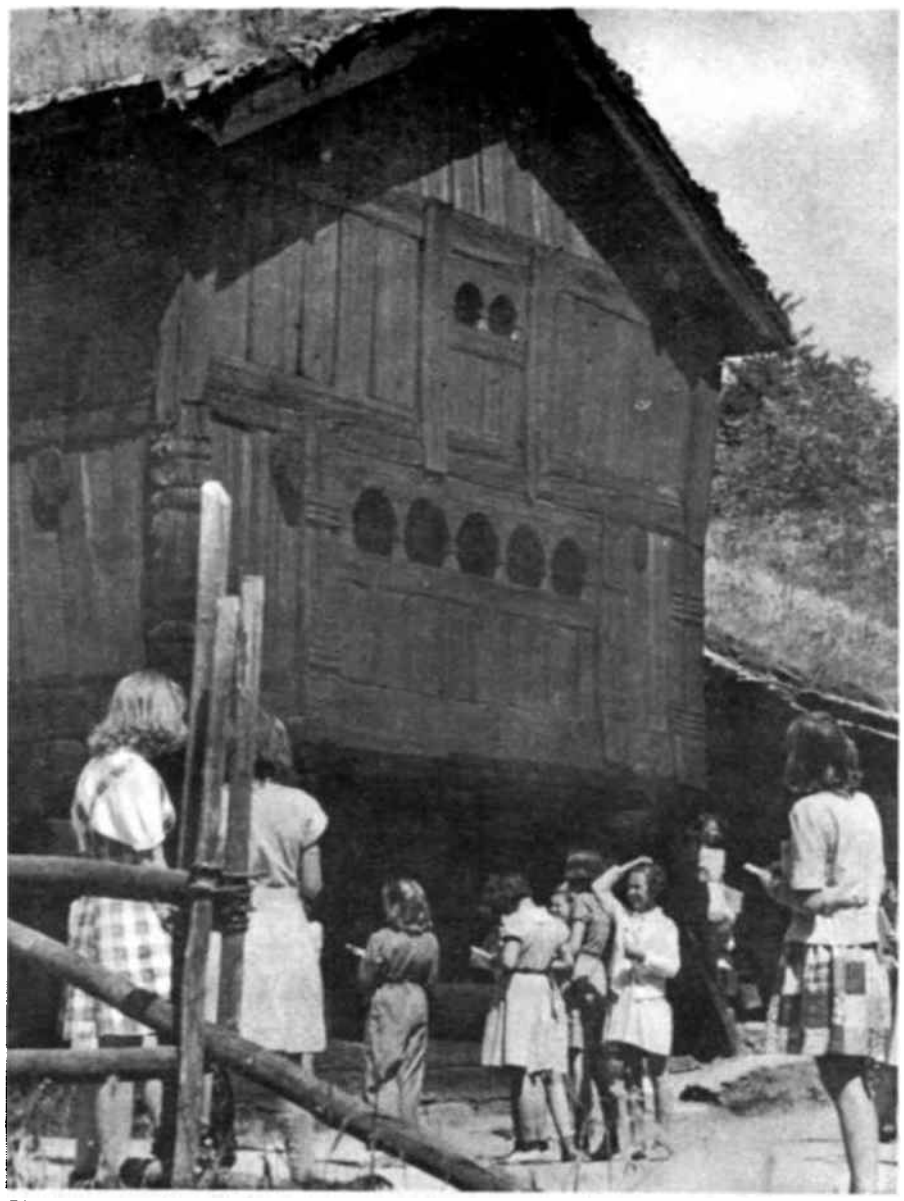
The *mangletre* — a forerunner of the modern flat-iron — is still used as a love token in rural Norway even today, in the same way as the Dutch *sabots*, the Alpine casket and the African Bambara clogs are in their own countries.

A narrow wooden board, about two feet long with a handle in the shape of a horse, the *mangletre* was (and still is), the peasant's traditional "proposal of marriage." Before proposing, the young fiancé spent long hours patiently carving on it figured motifs, decorative forms and lettering. Later, when in use, the flat wooden board was rubbed against the laundry until it was pressed. Today, hanging in the home, the *mangletre* is a reminder of the wedding day.

The Norwegian house is like an ever-open book on whose pages the peasant can rest his eyes and his thoughts. The decorations that brighten the furniture, walls and often the ceilings, have something in common with the illuminated manuscripts of the Middle Ages which combined beauty, spiritual teaching and the joy of colours.

Norwegian peasant art teaches a lesson of life, going far beyond the mere study of style or aesthetics. It is with this art, intimately linked to everyday objects of the home and farm and rich in symbolism, that the peasants, in spite of their isolation, or perhaps because of it, maintained a flourishing regional culture until it began to lose its vigour with the growth of industry at the start of our century.

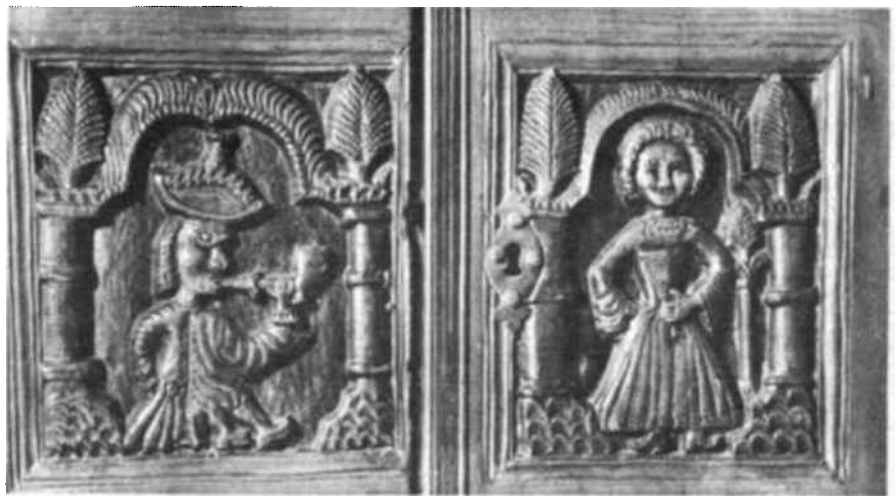
Nowadays, art and usefulness are too often divorced from each other. I do not of course suggest that to bring them together we should copy the decorative forms of Norwegian popular art. They have spoken their language; we should speak our own. For there is nothing so sterile in art as to seek to evade the present, and to take refuge only in the past. But today our streets are emptied of beauty to make room for advertisements. Our homes are frequently furnished with a thought only to material comfort. Even our skies are used to proclaim the virtues of this or that brand of soap, spaghetti or tinned food. Surely, it is important that the spiritual beauty of decorative art be given greater meaning in our everyday lives.



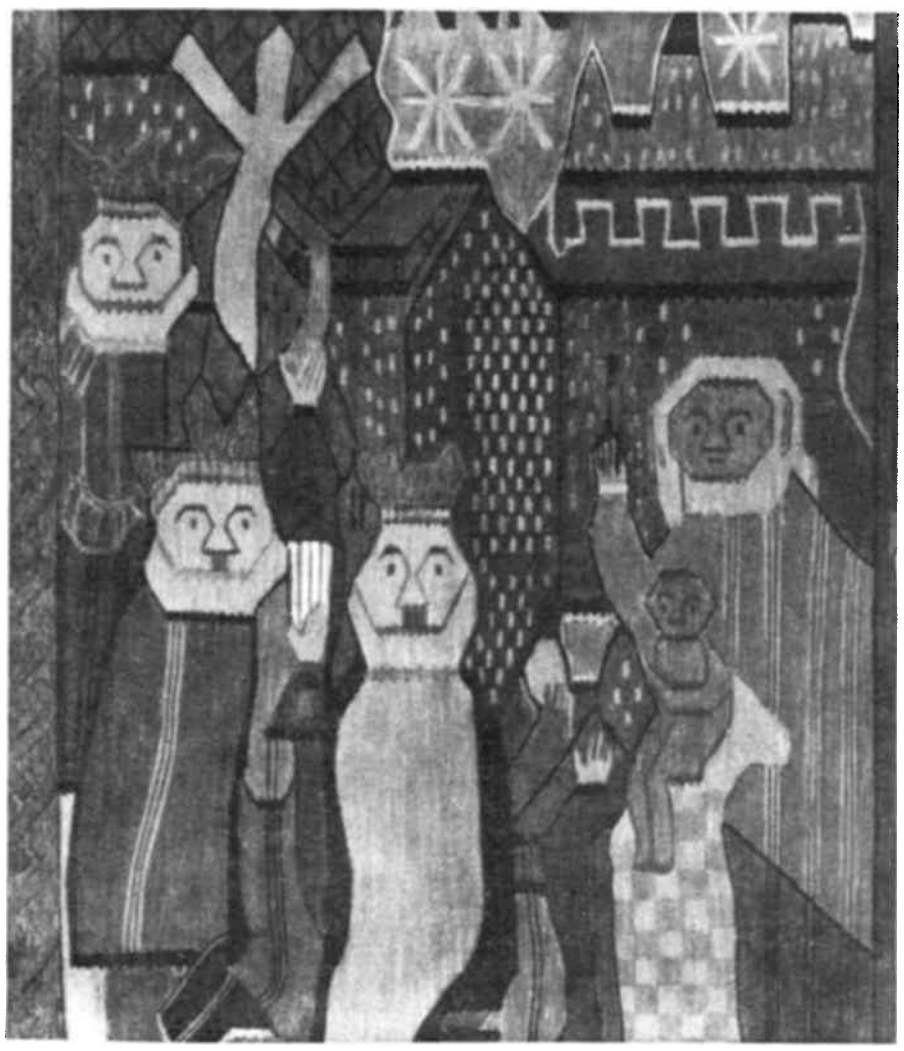
Children admire old Norwegian farmhouse at Bygdöy Open-Air Folk Museum.

This painting in blue on a cupboard was influenced by Chinese porcelains.

Typical peasant bedroom for newly-weds and guests. Decorated about 1828.



18th century carvings on cupboard at Drammen, once centre of clay pipe making.



Detail of hand-woven biblical tapestry dating from 1625. It depicts the Adoration.

Ancient chair from Telemark carved from single log, reserved for head of family.

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HORSEBACK WEDDING IN RURAL NORWAY

For centuries, Norwegian peasants have been married on horseback. This custom is maintained in certain parts of the country even today. Here, a Norwegian bride, wearing richly embroidered wedding dress, sets off for marriage ceremony. The horse's bridle is decorated with African cowrie shells brought back by Scandinavian mariners. Decorative art, rich in symbolism, plays an important part in the everyday life and homes of Norwegian country folk. (See article on page 12.)